

MISCELLANEOUS NOTES ON AUSTRALIAN DIPTERA. IV.

GENUS ODONTOMYIA (STRATIOMYIIDAE).

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In this rearrangement of the species of *Odontomyia* certain characters are found to be significant, but in the past colour characters have usually been regarded as paramount for specific recognition. I have concluded that within the Commonwealth the genus is, in the main, a southern one.

I give below a key based on the colour characters upon which the various species have been described. I also add a key based on other characters for the identification of nine* species regarded as valid.

Key based chiefly on colour characters.

1. Face, frons and scutellum black 2
 Face and/or scutellum yellow, at least in part. Frons normally yellow just above
 the antennae 3
2. Legs yellow. (Cubital vein not forked—White.) *opertanea* White
 Legs bicoloured *marginella* Macq.; *annulipes* ♂ Macq.
3. Spines of scutellum turned upwards. Frons with spots. Scutellum entirely yellow.
 Legs bicoloured *scutellata* Macq.
 Spines lying in the normal direction. Scutellum black basally, rarely otherwise .. 4
4. Face with at least the central area black. Legs bicoloured 5
 Face with the central area always yellow. Legs entirely yellow. Abdomen margined
 more or less widely with yellow but very variable in this respect 8
5. Abdomen without spots *stricta* Erich.
 Abdomen with lateral spots 6
 Abdomen bordered with yellow *annulipes* ♀ Macq.; *subdentata* Macq.
6. Abdomen spotted on second and third segments
 *hunteri* Macleay; *sydneyensis* Schin.; *laterimaculata* Macq.
 Abdomen spotted on second to fifth segments 7
7. Spots small and well separated *carinifacies* Macq.; *minima* Hardy
 Spots large and almost confluent *grandimaculata* Hardy
8. Eyes of male with all small facets (Tasmania) *picea* Walker
 Eyes of male with some very small facets below (which implies the upper ones are
 abnormally large and indicated only by Walker and Hill) 9
9. With narrow black abdominal stripe (character normal to males, rare on females)
 *regisgeorgii* Guér.; *carinata* ♂ Macq.; *stylata* ♂ Macq.; *ialemus* Walker;
 carinata var. ♂ Walk.; *kirchneri* Jaen.; *pectoralis* Thoms.; *pallida* Hül.
 With broad black abdominal stripe (character normal to females and not frequent
 on males) *carinata* ♀ Macq.; *stylata* ♀ Macq.;
 rufifacies Macq.; *amyris* Walker; *carinata* var. ♀ Walk.; *obscura* Hill.

Oxyccera decipiens Guérin is omitted from the key on account of the uncertainty of its identity. It is suggested that the species might belong to the Hermetiinae. The species *decipiens* Hardy is definitely *regisgeorgii* Macq. 1838, and apparently

* There is a tenth species known, from Kosciusko (December, 1921—G. Waterhouse), which is not dealt with in these notes. It is rather like *grandimaculata*, but the abdominal spots are not confluent on the male and the scutellum is black in both sexes; in addition, the face differs from its Tasmanian ally.

Guérin's name should bear the same date, not 1830, which is the date of publication of the plate, but there is no figure of the species on it.

Key to valid species.

1. The eighth antennal segment short, shorter than the sixth. Face black, at least in part 2
 The eighth antennal segment long and strongly tapering, longer than the sixth. If short, face yellow 6
2. Scutellar spines very small and insignificant. Small branch of radial vein beyond stigma missing 3
 Scutellar spines strong and conspicuous. Small branch of radial vein beyond stigma present, or at least indicated. Legs normally bicoloured 4
3. Face, frons, and scutellum entirely black and the abdomen above almost entirely so, the green or yellow showing as a thin bordering line. Legs yellow *opertanea* White
 Face, frons and scutellum almost or entirely black, abdominal markings on one or more segments. Legs usually bicoloured *marginella* Macq.
4. Spines sloping at an inclined plane to the scutellum, which is entirely yellow or practically so. Face and abdomen entirely black *scutellata* Macq.
 Spines directed to lie in a plane with the scutellum 5
5. Scutellar spines strong and well separated. Face black, at least over the central area, and the scutellum black basally. Usually two well-defined lateral spots on the second and third abdominal segments, but there may be more .. *hunteri* Macleay
 Scutellar spines much smaller and closer together. Colour marks approach those of *hunteri*, but vary to face frons and scutellum entirely black *stricta* Erich.
6. Face invariably black in centre covering carina. Abdomen normally with small spots at sides on female and large confluent reddish ones on male *grandimaculata* Hardy
 Face invariably yellow in the centre and usually entirely yellow 7
7. Male with normal eye-facets, the head not inflated. The face very wide so that the eye margins lie at about right-angles to one another, that of the female similarly wide. Frequently with a black bar just below the antennae and bordering eyes, on both sexes *picea* Walker
 Male with the upper facets much enlarged, the head thus becomes inflated. The face narrower on both sexes, and entirely yellow; that of the male with the eye margins lying at an acute angle to each other 8
8. Antennae with the eighth segment normal, longer than the sixth. Carina also normal, long. Female with the yellow of the frons separated from the black by a bicurved line, the curves being very pronounced *regisgeorgii* Macq.
 Antennae with the eighth segment short, shorter than the sixth. Carina also short. Female with the yellow of the frons separated from the black by a straight line *pallida* Hill

ODONTOMYIA OPERTANEA White.

Proc. LINN. Soc. N.S.W., xli, 1916, 93.—Hardy, *Proc. Roy. Soc. Tas.*, 1917, 62; 1920, 60.

Originally described from a unique Victorian female specimen, the species has been recognized also from Tasmania and from the Blue Mts., New South Wales. Those specimens reported to be in the Macleay Museum from Western Australia need confirmation. The male is unknown.

ODONTOMYIA MARGINELLA Macquart.

Dipt. Exot., suppl. 4, 1849, 52; White, Proc. LINN. Soc. N.S.W., xli, 1916, 93; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 59; nec White 1914, 1916.—? *O. annulipes* Macquart, Dipt. Exot., suppl. 4, 1849, 52; male only.

I do not think *subdentata* Macq. can belong here, as none of the specimens before me show yellow on the frons.

The eyes on the female are vivid green with a red bar about level with the antennae; there is a blotch above and another, less conspicuous, below. The male is unknown to me.

Macquart recorded the species in error as from Tasmania; the type locality is probably Sydney, and I have it only from southern Queensland. One Brisbane specimen is normal (Sunnybank, Feb., 1930), the other is conspicuously marked with yellow on the lower part of the face, scutellum and the lateral border of the abdomen, and the legs are entirely yellow, but otherwise the specimen agrees and may be an abnormal variation. There are six from Tallwood (January, 1936), all taken together haunting a patch of *Bassia Birchii* on the reserve adjacent to the township, and these are quite normal, with the yellow restricted to the basal part of the abdomen in addition to the line as on *opertanea*.

ODONTOMYIA SCUTELLATA Macquart.

Dipt. Exot., suppl. 1, 1846, 52; White, *Proc. Roy. Soc. Tas.*, 1914, 59; White, *Proc. LINN. Soc. N.S.W.*, 1916, 91; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 54.

White states that the eyes are brilliantly blue when alive. The species is known from Tasmania, Victoria and New South Wales; in the latter States it appears to be mainly a mountain species.

ODONTOMYIA HUNTERI Macleay.

Stratiomys huntcri Macleay, in King's Narr. Survey Austr., ii, 1872, 467.—*Odontomyia hunteri* Hardy, *Proc. Roy. Soc. Tas.*, 1920, 61 (*nec* White).—*O. laterimaculata* Macquart, Dipt. Exot., suppl. 4, 1849, 49; White, *Proc. Roy. Soc. Tas.*, 1914, 58, males only; White, *Proc. LINN. Soc. N.S.W.*, xli, 1916, 94, males only; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 54.—*O. carinifacies* Macquart, Dipt. Exot., suppl. 4, 1849, 51; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 55 (*nec* White).—*O. sydneyensis* Schiner, Novara Resa Dipt., 1868, 60 (*nec* Hardy).

The four names are probably all based on specimens from Sydney. The species is found in New South Wales, Victoria and Tasmania.

ODONTOMYIA STRICTA Erichson.

Arch. f. Naturg., viii, 1842, 272; Walker, List Dipt. B.M., v, suppl. 1, 1854, 55 (*Stratiomys*); White, *Proc. LINN. Soc. N.S.W.*, xli, 1916, 90, 100; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 62.—? *O. subdentata* Macquart, Dipt. Exot., suppl. 4, 1849, 49 (*nec* White).—*O. carinifacies* var. *minima* Hardy, *Proc. Roy. Soc. Tas.*, 1920, 55.—*O. laterimaculata* White, *Proc. Roy. Soc. Tas.*, 1914, 58 (females only); White, *Proc. LINN. Soc. N.S.W.*, xli, 1916, 94 (females only).

The species is common in Western Tasmania, the type locality. The species does not conform well with the characters given for *subdentata*, as no specimens known to me have the lateral margins yellow, but the scutellar spines are sometimes reduced.

The distribution covers Tasmania and Victoria; in the latter State it is mainly a mountain species occurring on the high plateaus. There are variations in markings as well as in size.

ODONTOMYIA GRANDIMACULATA Hardy.

O. carinifacies White, *Proc. Roy. Soc. Tas.*, 1914, 57; White, *Proc. LINN. Soc. N.S.W.*, xli, 1916, 94; Hardy, *Proc. Roy. Soc. Tas.*, 1920, 55 (*nec* Macquart).—*O. carinifacies* var. *grandimaculata* Hardy, *Proc. Roy. Soc. Tas.*, 1920, 56.

The species is only definitely known from Tasmania, where it breeds in the brackish tidal waters of the coastal swamps. The sexes differ in appearance, the male hitherto only being recognized with assurance, and the long series of females taken with them is now relegated to the type series.

ODONTOMYIA PICEA Walker.

? *O. annulipes* Macquart, Dipt. Exot., suppl. 4, 1849, 52, females only; White, Proc. LINN. Soc. N.S.W., xli, 1916, 90, 92.—*O. picea* Walker, Ins. Saund., Dipt., i, 1850, 78; List Dipt. B. Mus., v, suppl. 1, 1854, 55 (*Stratiomys*); White, Proc. LINN. Soc. N.S.W., xli, 1916, 90, 100.—*O. marginella* White, Proc. Roy. Soc. Tas., 1914, 57; 1916, 260; White, Proc. LINN. Soc. N.S.W., xli, 1916, 93 (*nec* Macq.).—*O. subdentata* White, Proc. Roy. Soc. Tas., 1916, 260; White, Proc. LINN. Soc. N.S.W., xli, 1916, 92; Hardy, Proc. Roy. Soc. Tas., 1917, 62 (*nec* Macquart).—*O. amyris* Hardy, Proc. Roy. Soc. Tas., 1917, 62 (*nec* Walker).

The description of Macquart's male *annulipes* does not agree with that of the female which might belong here as the band immediately below the antennae is mentioned; the type locality is likely to be Sydney, not Tasmania, as recorded. White's *marginella*, recognized on a specimen from Huon, probably belongs here and his *subdentata* certainly belongs. The species is only known to me from Tasmania.

ODONTOMYIA REGISGEORGII Macq.

Dipt. Exot., i, 1, 1838, 186; White, Proc. LINN. Soc. N.S.W., xli, 1916, 90, 100.—*O. carinata* Macquart, Dipt. Exot., suppl. 1, 1846, 52; White, Proc. Roy. Soc. Tas., 1914, 59; 1916, 260; White, Proc. LINN. Soc. N.S.W., xli, 1916, 90.—*O. stylata* Macquart, Dipt. Exot., suppl. 2, 1847, 30; suppl. 4, 52; White, Proc. Roy. Soc. Tasmania, 1914, 56; White, Proc. LINN. Soc. N.S.W., xli, 1916, 90.—*O. ialemus* Walker, List Dipt. B. Mus., iii, 1849, 535; White, Proc. LINN. Soc. N.S.W., xli, 1916, 90.—*O. amyris* Walker, List Dipt. B. Mus., iii, 1849, 535; White, Proc. Roy. Soc. Tas., 1914, 56; White, Proc. LINN. Soc. N.S.W., xli, 1916, 91 (*nec* Hardy, 1917).—*O. rufifacies* Macquart, Dipt. Exot., suppl. 4, 1849, 51; White, Proc. Roy. Soc. Tas., 1914, 55, 56, 74; White, Proc. LINN. Soc. N.S.W., 1916, 90.—*O. carinata* var., Walker, List Dipt. B. Mus., v, suppl. 1, 1854, 312 (*Stratiomys*).—*O. kirchneri* Jaennicke, Abh. Senck. Nat. Ges., vi, 1867, 323.—*O. pectoralis* Thomson, Eugenes Resa Dipt., 1869, 455.—*O. decipiens* Hardy, Proc. Roy. Soc. Tas., 1920, 57 (? *nec* Guérin, 1838).

This synonymy is adapted from that published in 1920 under *decipiens* which may not belong to this genus.

The only Western Australian species, *regisgeorgii*, was described without a head. I have males before me from Perth. The Tasmanian *carinata* is too large to be confused with *picea*; the other names given by Macquart are probably based on specimens from Sydney.

Colour characters have been well covered by various descriptions, and there are specimens before me showing that the black on the female abdomen may be cut into symmetrical patterns by a reddish coloration that appears after death, as I have not noted this on any living specimen. The green and yellow are interchangeable, the eye-marks remaining the same in both, as also on females that have the pattern normal to the male. The eyes of the male are vivid green without marks, those of the female are vivid green with a red bar at about antennal level, and this does not reach the posterior border.

The species is known from all the States, and is abundant.

ODONTOMYIA PALLIDA Hill.

O. hunteri White, Proc. LINN. Soc. N.S.W., xli, 1916, 92 (*nec* Macleay).—*O. pallida* Hill, Proc. LINN. Soc. N.S.W., xlv, 1919, 456; Hardy, Proc. Roy. Soc. Tas., 1920, 61.—*O. obscura* Hill, Proc. LINN. Soc. N.S.W., xlv, 1919, 457; Hardy,

Proc. Roy. Soc. Tas., 1920, 61.—*O. sydneyensis* Hardy, *Proc. Roy. Soc. Tas.*, 1920, 56 (*nec* Schiner).

The apical segment of antennae and the carina are shorter than those of *regisgeorgii*, and in this the species approaches *hunteri* Macleay. Hill described the two sexes as distinct species, but his figures agree with the present form which is the one upon which I based my identification of *sydneyensis*.

The species is rare in collections, and it is only recently that I have discovered the male and associated the sexes.

The eyes of the male are similar to those of *regisgeorgii*, but, when living, are vivid reddish with a purple bar lying along the upper margin of the small facets, the bar reaching both eye-margins. The eyes of the female are vivid green with a red bar at about antennal level, like that on *regisgeorgii*, but there is a blotch of red at the upper eye-margin, reaching the length of one-third of the frons. The markings of the male abdomen are typical of *regisgeorgii*, those of the female are not unlike those of *hunteri*. Other characters are given in the key.

Hab.—Northern Territory, Queensland and New South Wales. Rare in collections. Brisbane, 2 ♂, 2 ♀; Sydney, 1 ♀.
